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(54) **NORMALLY ON HIGH VOLTAGE SWITCH**

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(57) **ABSTRACT**

In some embodiments, a normally on high voltage switch device ("normally on switch device") incorporates a trench gate terminal and buried doped gate region. In other embodiments, a surface gate controlled normally on high voltage switch device is formed with trench structures and incorporates a surface channel controlled by a surface gate electrode. The surface gate controlled normally on switch device may further incorporate a trench gate electrode and a buried doped gate region to deplete the conducting channel to aid in the turning off of the normally on switch device. The normally on switch devices thus constructed can be readily integrated with MOSFET devices and formed using existing high voltage MOSFET fabrication technologies.